WIENER Mini Crate 395

User Manual

PRELIMINARY

General Remarks

The only purpose of this manual is a description of the product. It must not be interpreted as a declaration of conformity for this product including the product and software.

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Mains Voltage and Connection

The Power supplies are equipped with a "World"- mains input, which works properly form 94VAC up to 264VAC and within a frequency range of 47 to 63Hz. Before connecting to the mains please double-check correspondence.

Safety

After connecting the chassis to the mains and switching the AC MAINS on, the auxiliary power supply module is powered permanently.

Do not open or work inside the power box area without first disconnecting the unit from AC mains.

Cooling

VME Mini Crates are equipped with temperature probes to protect the unit against severe damages. It cannot be guaranteed that inserted modules are protected sufficient in the same way if

1. The fan speed is reduced to lower or minimum speed
2. The air ingress or/and outlet holes are blocked

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1 General Information

The WIENER 395 mini crate series represents a compact but modular designed 9 slot VME/VME64x/cPCI chassis with hot-swappable, redundant power supplies. A front-side-plug high performance DC fan is used for cooling with front to rear air flow.

The front side 6U x 1600 mm card cage is recessed . The 395 crate series is also outfitted with a rear side 6U x 80mm transition card cage. All chassis parts are compliant to the IEEE 1101.10 standard with enhanced EMC / ESD.

One or two redundant operating plug-in 250W cPCI power supplies provide sufficient power for all applications. The CML shelf manager allows full remote monitoring and control of power supply, fan and chassis.

The WIENER 395 mini crate can be used on the desk either as a desktop or up-right unit or be installed in a 19" rack.

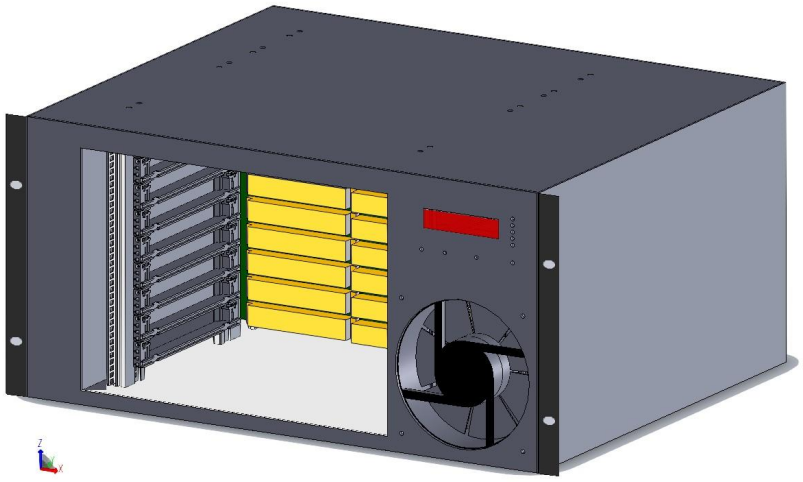


Fig. 1.1: 3-dimensional view of VME395x chassis

1.1 395 Mini Crate Series Features

- MINI-Bin mechanics for 6Ux160mm modules, suitable either for 19" rack, as a tower- or a desktop box
- IEEE 1101.10 compliant mechanics with enhanced EMC / ESD
- 9 slot monolithic VME, VME64x (optional P0 connectors) or cPCI backplane
- Free rear access for 6U transition modules, standard transition cage for 6U 80mm modules, provisions for 160 and 120mm foreseen. Special depth on request
- Alphanumeric high-visibility LED display for voltages, currents, fan speed, temperatures and settings / programming, 4 status LED's
- WIENER CML Shelf Manager for local and remote monitoring and control, monitors and controls power supply, fan, remote on/off, SYSRES, thermal monitoring, user I/O programming, with Ethernet and USB interfaces, rear side plugged in
- Front side mounted, removable High-RPM DC blower, adjustable speed (1200 … 3200 RPM), temperature controlled
- Programmable under / over voltage and over current trip points, active DC output discharge

- Outfitted with one or two 250W cPCI power supplies, plugged in from rear, hot swappable, redundant operation, CE-conformity, 300W power supplies on request
- 100V – 240V world-wide auto-range AC input, with power factor correction, CE-conformity
- Dimensions: 19" (482mm) x 5U (215mm) x 417mm [whd], weight: ca. 20 kg

1.2 Front and Rear Side View

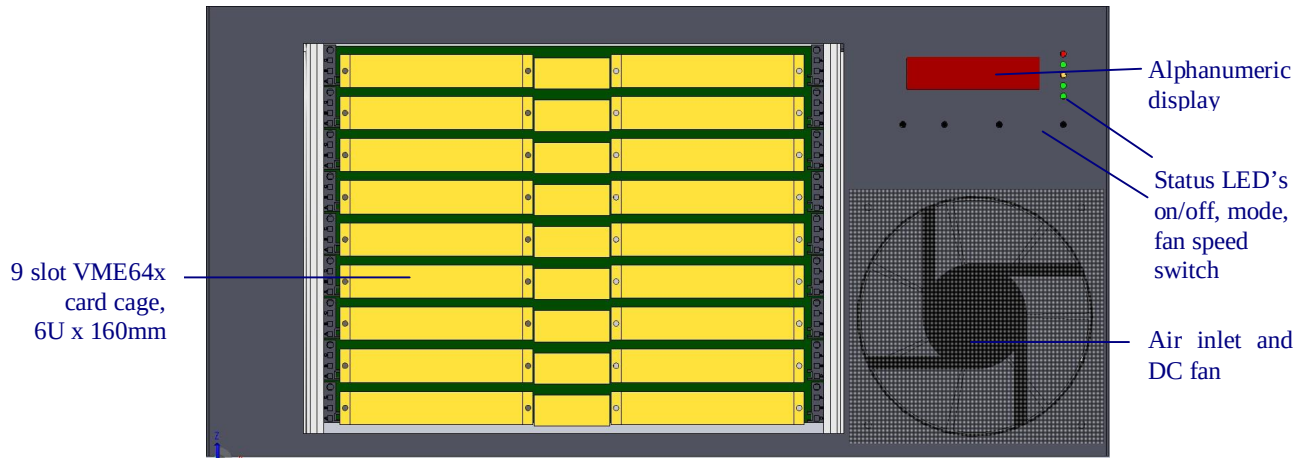


Fig. 1.2: Front side view of VME395x-2 chassis (without 19" rack mounting brackets)

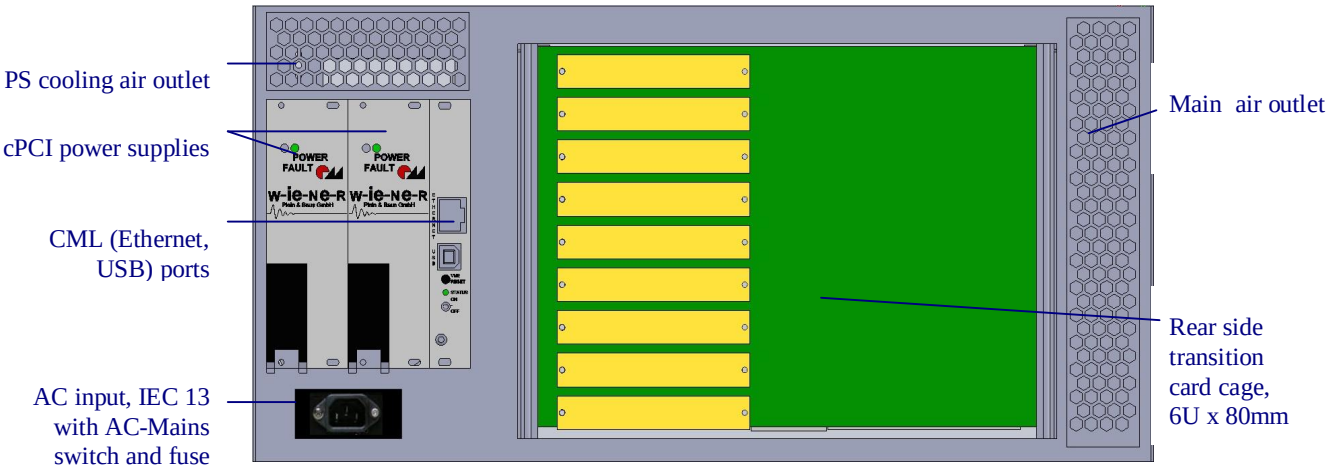


Fig. 1.3: Rear side view of VME 395x_2 chassis (without 19" rack mounting brackets)

1.3 Cooling

The 395 mini crate provides a front-to-rear cooling air flow. In order to maximize the air flow additional air outlets are provided on the side and top of the chassis.

A part of the air is internally divided and guided to the rear for cooling of the power supply as well as of the transition card guide area. The following plot shows the cooling air schema of the 305 crate.

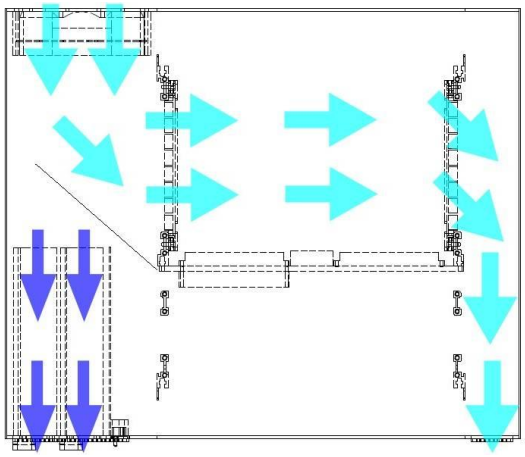


Fig. 1.4: Principle cooling air flow

The fan assembly on the front side is field removable.

Using a high performance DC fan (HRPM – high speed) in push mode an extremely high airflow and static back pressure is achieved. The maximum fan speed is 7200rpm and can be reduced stepwise via front panel switch operation or remote control to 2400rpm. The fan operation can be temperature controlled in case the 395 chassis is outfitted with optional temperature probes. The fan speed is monitored and a fan fail circuit will shut down power in case of failures.

For enhanced cooling the fan will run a defined time (default 60s) after switching off the chassis.

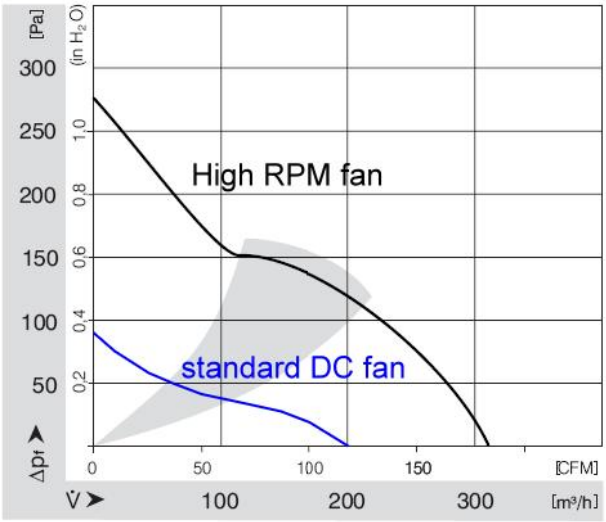


Fig. 1.5: HRPM fan airflow / static pressure characteristics

1.4 Power Supply

The 395 mini crate is outfitted with either one or two cPCI-type 250W power supplies. Optionally also 300W power supply versions are available. The power supplies are hot-swappable and can operate in a redundant mode. No minimum load is required. The following table provides the output current rating for the 250W power supply.

Voltage	Minimum	Typical	Max	Peak.
5V	0A	25A	33A	33A
3.3V	0A	18A	33A	33A
+12V	0A	5A	5.5A	6A
-12V	0A	0.5A	1A	1.5A

Notes: 1.Peak load less than 60sec. with duty cycle <10%.

2.Max. load is the continuous operating load of each rail. But the max. load of each rail can't be drawn from all outputs at the same time.

Using a special internal power backplane additional filtering and current measurement is provided. This internal board is also outfitted with crow bars for an active discharge on all DC lines in error conditions and when powering down.

With the help of the CML Over Voltage (OV), Under Voltage (UV) and Over Current (OC) trip points can be defined.

1.5 Display and CML00 Shelf Manager

For local and remote monitoring and control the 395 mini crate is outfitted with a CML00 shelf manager and a high visibility alphanumeric display. In addition to the display of voltages / currents, temperatures, fan speed and networking it is possible to program most of the chassis and power supply settings using the front panel switches (see paragraph 2).

The CML00 allows full remote monitoring and control of power supply, fan and chassis parameters via Ethernet (SNMP v2 and WWW) and offers the following features:

- Remote or local switch ON/OFF
- Multicolored status LED
- 12 bit DC Voltage measurement: 4 channels for 3.3V, 5V, 12V and -12V
- Temperature measurement: 1-wire-bus for digital temperature sensors
- Fan Control: DC fan monitored, fan speed settable, temperature controllable
- Fully controlled, programmable trip thresholds (min./max. Voltage & temperature)
- Detection of VME RESET and SYSFAIL, generation of VME RESET and ACFAIL,
- Detection of Derating or Failure signals from cPCI Power Supplies
- Capable to switch cPCI Power Supplies (ON/OFF)
- Ethernet connection IEEE 802.3 10BASE-T and IEEE 802.3u 100BASE-TX
- WWW-Server integrated, full control via SNMP protocol v.2
- PC-Control (connected to galvanic isolated USB) with free available software
- IP address settable to a fix value or configurable via DHCP (default)
- Firmware update possible via USB or Ethernet.
- Automatic data logging on Windows/Linux computer possible
- Digital Signal Processor (DSP) for real-time processing of all measured data
- Powered by 5V bus voltage and independent power supply
- Configuration permanently saved in EEPROM

1.5.1 CML DC ON/OFF Switch and Status LED

The CML is outfitted with a DC Power Switch which is used to switch the system power supply on (push the switch to the "ON" position) or off (push the switch to the "OFF" position.
The multi-colored Status LED shows the global status of the system:

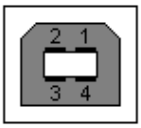
- YELLOW Standby state (the system power supply is off)
- GREEN System power is on, all measurement values are in limit
- RED System switched off because of any failure

1.5.2 Ethernet Connector

RJ45 Socket	Pin	Signal	Comment
	1	TX+	
	2	TX-	
	3	RX+	
	4	GND 1	
	5	GND 1	
	6	RX-	
	7	GND 2	
	8	GND 2	

This is the standard NIC configuration. **You need a** 1:1-cable to connect a to a HUB, or a **cross-over cable to connect to** another NIC (e.g. **a computer**). *There is no automatic signal crossing like with some routers.*

1.5.3 USB Connector

USB Socket	Pin	Signal	Comment
	1	VCC	
	2	D-	
	3	D+	
	4	GND	

This is the standard USB connector type B. The USB connection is galvanic isolated from the system to prevent ground loops.

1.5.4 CML Temperature Sensor Inputs / Fan Control

The CML00 can be connected to 8 or more temperature sensors via a 1-wire bus. In the event of an error, the status LED on the front panel will turned red.

The temperatures can be read with the SNMP network command (crate.sensor.sensorTemperature OID).

Each temperature is compared with three threshold values (crate.sensor.sensorWarningThreshold, crate.sensor.sensorAlarmThreshold and crate.sensor.sensorFailureThreshold OIDs).

Two different modes can be set. Please read more about the hysteresis control mode and the linear control mode in the following paragraph.

To operate the device in the hysteresis control mode, it is necessary to swap the alarm with the warning temperature value. The alarm temperature has to be less than the warning temperature. The fan speed executes a hysteresis between the two temperature points of any connected sensor between maximum speed and the nominal and minimal speed respectively .

If the sensorFailureThreshold of any connected sensor is reached, the main power supply of the system is switched off.

The controlling result of fan speed is pictured in figure 1.6.

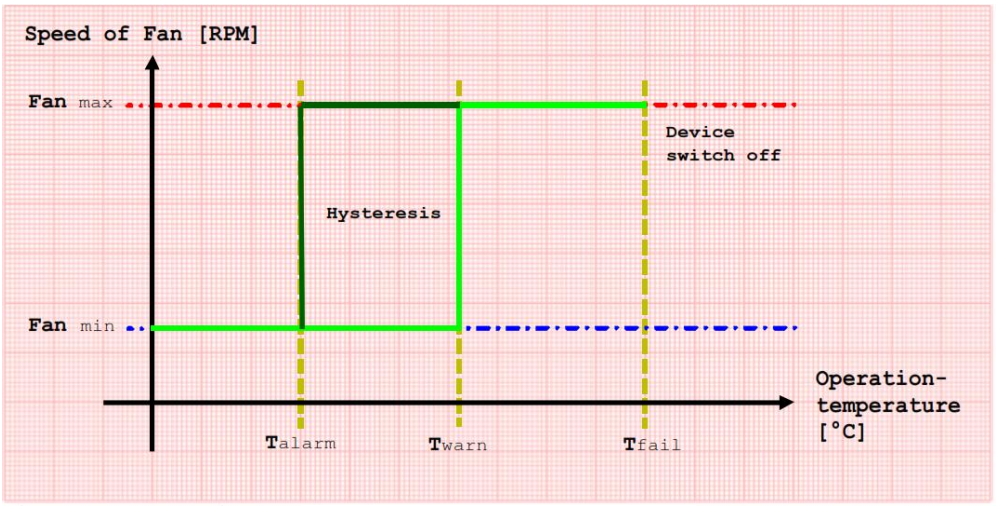


Figure 1.6: Hysteresis control mode

The second mode is the linear control mode. If the temperature of any connected sensor is under the warning threshold the fans will operate in their nominal and minimum speed respectively.

If the sensorWarningThreshold is reached, all fans will rotate in a calculated linear temperature-sensitive speed. Overstepping the sensorAlarmThreshold they will switch to their maximum speed.

After exceeding the sensorFailureThrehold of any connected sensor, the main power supply of the system is switched off.

The controlling result of fan speed is pictured in figure 1.7.

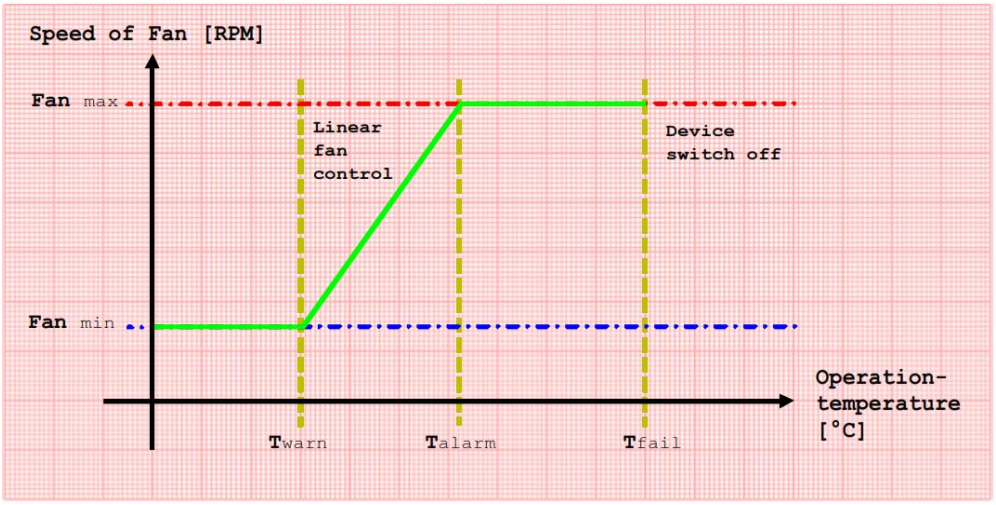


Figure 1.7: Linear control mode

When using the linear control mode it is important to know that there exists a sub mode called low noise mode. When the nominal speed set by user is under the allowed minimal speed, the device will switch off all fans. If is it not necessary to cool down the device the fans stand still. After reaching of sensorwarningThreshold the behavior of fan control is equal to the linear control mode.

The controlling result of fan speed is pictured in figure 1.8.

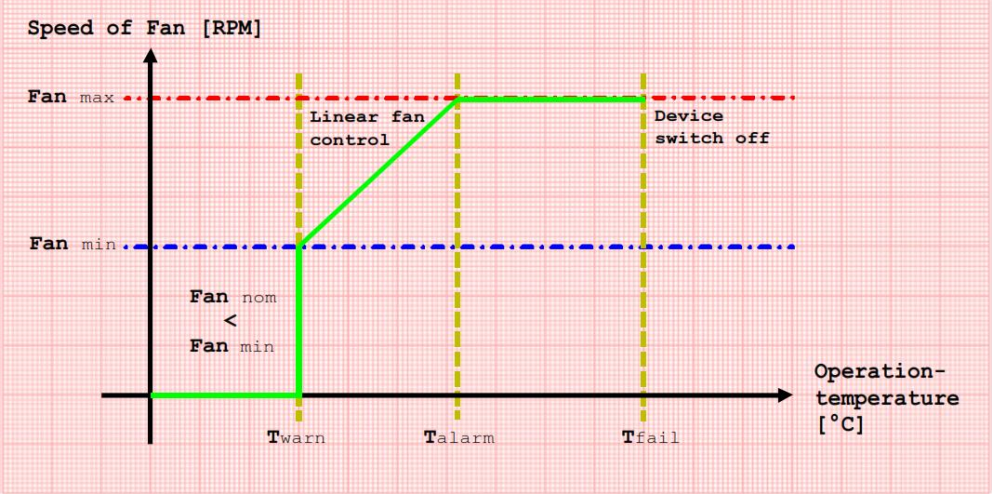


Figure 1.8: Low noise control mode

1.6 Ordering Information

VME / VME64 Crate Version	Backplane	+5V	+12V	-12V
VME 395_1	VME/VME64	33A	6A	1A
VME 395_2	VME/VME64	66A	12A	2A

VME64x Crate Version	Backplane	+5V	+3.3V	+12V	-12V
VME 395x_1	J1/J2 VME64x	33A	33A	6A	1A
VME 395x_2	J1/J2 VME64x	66A	66A	12A	2A
VME 395x_1_P0	J1/J0/J2 VME64x	33A	33A	6A	1A
VME 395x_2_P0	J1/J0/J2 VME64x	66A	66A	12A	2A

cPCI Crate Version	Backplane	+5V	+3.3V	+12V	-12V
PCI 395_1	6U cPCI	33A	33A	6A	1A
PCI 395_2	6U cPCI	66A	66A	12A	2A

2 WIENER 395 Mini Chassis Operation

Switch on the AC Mains switch located at the power connector on the rear side.

To power the chassis on either the DC ON/OFF switch on the CML00 (rear side) or the "Power" on the front display can be used on by pushing the switch up.

The main operation modes can be selected by pushing the "Mode Select" switch up or down.

Many main operation modes do have one or more submenus, which can be accessed by the following special procedure.

You will use the following switches of the 395 mini chassis front panel:

Symbol	*Description*	*Remarks*
P▲	Push "Power" switch up (ON)	**Main operation mode:** Switch the crate on. **Submenu:** OK button. Used to enter the selected submenu, request to change a value, accept the changes.
P▼	Push "Power" switch down (OFF)	**Main operation mode:** Switch the crate off. **Submenu:** CANCEL button. Used to leave a submenu, discard the changes.
M▲	Push "Mode Select" switch up	**Main operation mode:** Select the next operation mode. **Submenu:** Change the selected item to the next possible state.
M▼	Push "Mode Select" switch down	**Main operation mode:** Select the previous operation mode. **Submenu:** Change the selected item to the previous possible state.

The following example describes the detailed steps to change the IP gateway address of the fan tray.

Description	*Switch*	*Display* *(when 2 lines: display alternating marked blue: flashing*
switch the crate on	P▲	+5V 5.01V 1.2A
select the requested main operation mode	M▲ or M▼ (until right mode is displayed)	TCPIP: no link
enter submenu	M▲(push and hold), P▲	Config: Wait
	hold both switches up	Config: Wait...
	after 4 seconds you can	Config: Ready !

	release the switches	TCPIP Address 192.168.91.80
Select submenu "TCPIP Gateway"	M▲ or M▼ (until right menu is displayed)	TCPIP Gateway 192.168.91.94
Enter this menu	P▲	192.168.91.94
Change the value	M▲ or M▼	196.168.91.94
Accept change, to next item	P▲	196.168.91.94
Accept change, to next item	P▲	196.168.91.94
Accept change, to next item	P▲	196.168.91.94
Ready, back to submenu selection	P▲	TCPIP Gateway 196.168.91.94
Ready, leave submenu	M▼	TCPIP: no link

2.1 Main operation modes and associated submenus

Operation Mode	*Submenu*	*Display*
Display voltage and current of the selected output channel		+5V0 5.01V 2.41A
	Change of the over current switch-off threshold	+5V0 IOff 60.A
	Change of the under voltage switch-off threshold	+5V0 Umin 4.50V
	Change of the over voltage switch-off threshold	+5V0 Umax 5.50V
Display the total power at the load		Power 10W
	Auto Power Setting (Yes / No)	Auto PowerOn: Yes
	SwitchOff (Normal / Delay)	SwitchOff: Normal
	ScreenSaver (On / Off)	ScreenSaver: Off
Display the TCP/IP connection state Possible values & symbols are: no link (no cable connected) 10M (connected to 10M network) 100M (connected to 100M network) HD (half duplex) FD (full duplex) ↓, ↑, ↕ (Frame received, transmitted, both)		Ethernet 100M FD
	Change the TCP/IP address (0.0.0.0.0 = DHCP)	TCPIP Address 0.0.0.0
	Show Assigned IP address	Assigned IP Add. 192.168.91.80
	Change the TCP/IP subnet mask	TCPIP SubnetMask 255.255.255.224

Change the TCP/IP gateway address	TCPIP Gateway 192.168.91.94
Change Boot Option	ALL/BOOTP/DHCP
Allow writes (e.g. switch on/off) via the web server	HTTP:read/write
Change TCP/IP negotiation settings	TCPIPnegotiation AutoNegotiation
Display of the Ethernet hardware address (MAC). This address is written at the type plate, too.	TCPIP MAC Addres 0050-C22D-C231
Change the TCP/IP port of the web server	HTTP Port 80
Change the TCP/IP port of the TELNET server	TELNET Port 23
Change the TCP/IP port of the SNMP server	SNMP Port 161
Restore the default SNMP settings (community strings)	SNMP Default No
Display the fan rotation speed	FANS: 2400 RPM
Change the time for which the fans will continue running after switching the power supply off.	60s (default)
Display the number of supervised fans	1
Display the fan operating time (hours)	FanTime: xxx.x h
Display Fan Operation Mode	FAN MOD linear
Display the BIN sensor temperature (1 to 8)	Bin TempX: xxºC
Change the WARNIG threshold temperature (fans will switch to full speed)	
Change the ERROR threshold temperature (power supply is switched off)	
Change the FAIL threshold temperature (power supply is switched off)	

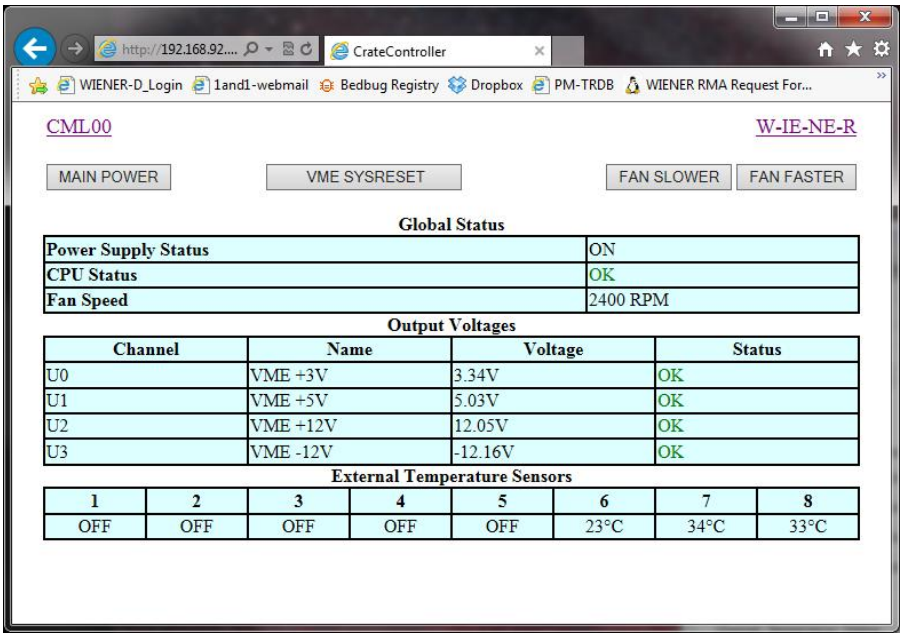
2.2 Front Panel LED's

AC POWER	green large LED if *POWER* is on
STATUS	green LED if all voltages are within the limit
FAN FAIL	yellow LED if a fan failure is recognized
OVERHEAT	yellow LED if an overheat in the power supply occurs
SYS FAIL	red LED if VME-bus system generates the *SYSFAIL* signal (system failure)
FAN SPEED	Red LED if fan speed below 100%

3 Ethernet Remote Monitoring and Control

All WIENER crates with Ethernet ports allow simple monitoring and control via a web browser which shows status as well as all supply voltages, fan speed and temperatures. It is possible to switch the crate on or off, send a system Reset (VME: SYSRES) and change the fan speed within the web browser window. All active controls as on/off and change fan speed will require a user name and password. The user name is "private" and default password also "private" (can be changed via SNMP).

The network configuration as IP address (0.0.0.0 default = DHCP), net mask and ports can be changed via the front panel display and switches or via SNMP.


http://192.168.92....
CrateController
WIENER-D_Login
1and1-webmail
Bedbug Registry
Dropbox
PM-TRDB
WIENER RMA Request For...
CML00
W-IE-NE-R
MAIN POWER
VME SYSRESET
FAN SLOWER
FAN FASTER
Global Status
Power Supply Status ON
CPU Status OK
Fan Speed 2400 RPM
Output Voltages
Channel | Name | Voltage | Status
U0 | VME +3V | 3.34V | OK
U1 | VME +5V | 5.03V | OK
U2 | VME +12V | 12.05V | OK
U3 | VME -12V | -12.16V | OK
External Temperature Sensors
1 | 2 | 3 | 4 | 5 | 6 | 7 | 8
OFF | OFF | OFF | OFF | OFF | 23°C | 34°C | 33°C

For full control of crate and power supply parameters or to implement the crate into a slow control system WIENER is providing a SNMPv2c (**S**imple **N**etwork **M**anagement **P**rotocol) compliant protocol. We suggest NetSNMP as an open source SNMP program which will be used in the further description. Please see http://net-snmp.sourceforge.net/ for more details.

3.1 SNMP communication protocol

Please download and install netSNMP (32-bit version!!! can be downloaded from file.wiener-d.com) on the control computer. In order to perform SNMP calls from any WIENER product the WIENER-CRATE-MIB.TXT file must be stored somewhere on the PC doing the calls, by default that location should be /usr/share/snmp/mibs (Windows: C:\usr\share\snmp\mibs). The most commonly used netsnmp calls are:

snmpwalk – returns groups of parameters / items
snmpget – returns a specific parameter (read)
snmpset – sets a specific parameter (write)

Please see the Net-snmp description and help files for detailed instructions and options. All parameters defined for the WIENER crates and other power supplies are contained within the WIENER-CRATE-MIB.txt file.
A fast an easy way to begin using SNMP is to use command line arguments. The command line arguments specified in this document are based on netSNMP. The command line syntax is the same for both windows and Linux (and MAC OSX).
For all WIENER-CRATE-MIB library calls a quick help text can be shown by using

snmptranslate -On -Td WIENER-CRATE-MIB::xxxx

Example:
snmptranslate -On -Td WIENER-CRATE-MIB::outputName
.1.3.6.1.4.1.19947.1.3.2.1.2
outputName OBJECT-TYPE
-- FROM WIENER-CRATE-MIB
-- TEXTUAL CONVENTION DisplayString
SYNTAX OCTET STRING (1..4)
DISPLAY-HINT "255a"
MAX-ACCESS read-only
STATUS current
DESCRIPTION "A textual string containing a short name of the
output. If the crate is equipped with an alphanumeric
display, this string is shown to identify a output channel."
::= { iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) wiener(19947) c
rate(1) output(3) outputTable(2) outputEntry(1) 2 }

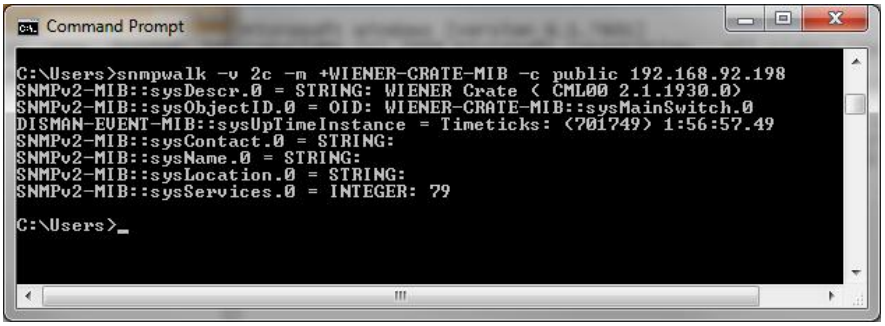
A first communication with a WIENER chassis can be done using the snmpwalk to confirm the existence of the unit at the given IP address.

snmpwalk -Cp -Oqv -v 2c -M $path -m +WIENER-CRATE-MIB -c public $ip

with:
snmpwalk: This command will retrieve a block of information.
-v 2c: This parameters specifies which version of the SNMP to use. WIENER devices use SNMP 2C.
-M $path: This parameter should be replaced with the path to the WIENER-CRATE-MIB.txt file. It is not needed in case the default path is used.
-m +WIENER-CRATE-MIB: This parameter tells the command to look at the WIENER-CRATE-MIB to resolve the OID name.
-c public: This specifies which community of values can be accessed.
$ip: This should be replaced with the IP address of the MPOD crate.

Example for crate with IP address 192.168.0.81:

C:\ >snmpwalk -v 2c -m +WIENER-CRATE-MIB -c public 192.168.92.198
SNMPv2-MIB::sysDescr.0 = STRING: WIENER Crate (CML00 2.1.1930.0)
SNMPv2-MIB::sysObjectID.0 = OID: WIENER-CRATE-MIB::sysMainSwitch.0
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (676068) 1:52:40.68
SNMPv2-MIB::sysContact.0 = STRING:
SNMPv2-MIB::sysName.0 = STRING:
SNMPv2-MIB::sysLocation.0 = STRING:
SNMPv2-MIB::sysServices.0 = INTEGER: 79


Command Prompt
C:\Users>snmpwalk -v 2c -m +WIENER-CRATE-MIB -c public 192.168.92.198
SNMPv2-MIB::sysDescr.0 = STRING: WIENER Crate (CML00 2.1.1930.0)
SNMPv2-MIB::sysObjectID.0 = OID: WIENER-CRATE-MIB::sysMainSwitch.0
DISMAN-EVENT-MIB::sysUpTimeInstance = Timeticks: (701749) 1:56:57.49
SNMPv2-MIB::sysContact.0 = STRING:
SNMPv2-MIB::sysName.0 = STRING:
SNMPv2-MIB::sysLocation.0 = STRING:
SNMPv2-MIB::sysServices.0 = INTEGER: 79
C:\Users>_

A list of all available parameters or sub-parameters as for instance channels can be obtained using the command snmpwalk with the parameter "crate". To get all parameters use:

snmpwalk -Cp -Oqv -v 2c -M $path -m +WIENER-CRATE-MIB -c public $ip crate

example:
C:\ >snmpwalk -v 2c -m +WIENER-CRATE-MIB -c public 192.168.2.198 crate
Returns for the VME395x-2 crate:

WIENER-CRATE-MIB::sysMainSwitch.0 = INTEGER: on(1)
WIENER-CRATE-MIB::sysStatus.0 = BITS: 80 mainOn(0)
WIENER-CRATE-MIB::sysVmeSysReset.0 = INTEGER: 0
WIENER-CRATE-MIB::sysHardwareReset.0 = INTEGER: 0
WIENER-CRATE-MIB::sysOperatingTime.0 = INTEGER: 8392806 s
WIENER-CRATE-MIB::outputNumber.0 = INTEGER: 4
WIENER-CRATE-MIB::outputIndex.u0 = INTEGER: u0(1)
WIENER-CRATE-MIB::outputIndex.u1 = INTEGER: u1(2)
WIENER-CRATE-MIB::outputIndex.u2 = INTEGER: u2(3)
WIENER-CRATE-MIB::outputIndex.u3 = INTEGER: u3(4)
WIENER-CRATE-MIB::outputName.u0 = STRING: U0
WIENER-CRATE-MIB::outputName.u1 = STRING: U1
WIENER-CRATE-MIB::outputName.u2 = STRING: U2
WIENER-CRATE-MIB::outputName.u3 = STRING: U3
WIENER-CRATE-MIB::outputStatus.u0 = BITS: 80 outputOn(0)
WIENER-CRATE-MIB::outputStatus.u1 = BITS: 80 outputOn(0)
WIENER-CRATE-MIB::outputStatus.u2 = BITS: 80 outputOn(0)
WIENER-CRATE-MIB::outputStatus.u3 = BITS: 80 outputOn(0)
WIENER-CRATE-MIB::outputMeasurementSenseVoltage.u0 = Opaque: Float: 3.346126 V
WIENER-CRATE-MIB::outputMeasurementSenseVoltage.u1 = Opaque: Float: 5.035577 V
WIENER-CRATE-MIB::outputMeasurementSenseVoltage.u2 = Opaque: Float: 12.062679 V
WIENER-CRATE-MIB::outputMeasurementSenseVoltage.u3 = Opaque: Float: -12.168746 V
WIENER-CRATE-MIB::outputMeasurementCurrent.u0 = Opaque: Float: 0.024551 A
WIENER-CRATE-MIB::outputMeasurementCurrent.u1 = Opaque: Float: 1.511335 A
WIENER-CRATE-MIB::outputMeasurementCurrent.u2 = Opaque: Float: 0.120758 A
WIENER-CRATE-MIB::outputMeasurementCurrent.u3 = Opaque: Float: 0.177095 A
WIENER-CRATE-MIB::outputSupervisionBehavior.u0 = INTEGER: 975
WIENER-CRATE-MIB::outputSupervisionBehavior.u1 = INTEGER: 975
WIENER-CRATE-MIB::outputSupervisionBehavior.u2 = INTEGER: 975
WIENER-CRATE-MIB::outputSupervisionBehavior.u3 = INTEGER: 975
WIENER-CRATE-MIB::outputSupervisionMinSenseVoltage.u0 = Opaque: Float: 3.130000 V
WIENER-CRATE-MIB::outputSupervisionMinSenseVoltage.u1 = Opaque: Float: 4.750000 V
WIENER-CRATE-MIB::outputSupervisionMinSenseVoltage.u2 = Opaque: Float: 11.400000 V
WIENER-CRATE-MIB::outputSupervisionMinSenseVoltage.u3 = Opaque: Float: 11.400000 V
WIENER-CRATE-MIB::outputSupervisionMaxSenseVoltage.u0 = Opaque: Float: 3.470000 V
WIENER-CRATE-MIB::outputSupervisionMaxSenseVoltage.u1 = Opaque: Float: 5.250000 V
WIENER-CRATE-MIB::outputSupervisionMaxSenseVoltage.u2 = Opaque: Float: 12.600000 V
WIENER-CRATE-MIB::outputSupervisionMaxSenseVoltage.u3 = Opaque: Float: 12.600000 V
WIENER-CRATE-MIB::outputSupervisionMaxCurrent.u0 = Opaque: Float: 33.000000 A
WIENER-CRATE-MIB::outputSupervisionMaxCurrent.u1 = Opaque: Float: 33.000000 A
WIENER-CRATE-MIB::outputSupervisionMaxCurrent.u2 = Opaque: Float: 6.000000 A
WIENER-CRATE-MIB::outputSupervisionMaxCurrent.u3 = Opaque: Float: 1.500000 A
WIENER-CRATE-MIB::outputConfigGainSenseVoltage.u0 = Opaque: Float: 0.677543
WIENER-CRATE-MIB::outputConfigGainSenseVoltage.u1 = Opaque: Float: 0.844009
WIENER-CRATE-MIB::outputConfigGainSenseVoltage.u2 = Opaque: Float: 0.991011
WIENER-CRATE-MIB::outputConfigGainSenseVoltage.u3 = Opaque: Float: 0.947903
WIENER-CRATE-MIB::outputConfigGainSenseVoltage.u4 = Opaque: Float: 0.000000

WIENER-CRATE-MIB::outputConfigGainSenseVoltage.u5 = Opaque: Float: 0.000000
WIENER-CRATE-MIB::outputConfigOffsetSenseVoltage.u0 = Opaque: Float: 0.000000 V
WIENER-CRATE-MIB::outputConfigOffsetSenseVoltage.u1 = Opaque: Float: 0.000000 V
WIENER-CRATE-MIB::outputConfigOffsetSenseVoltage.u2 = Opaque: Float: 0.000000 V
WIENER-CRATE-MIB::outputConfigOffsetSenseVoltage.u3 = Opaque: Float: 0.000000 V
WIENER-CRATE-MIB::outputConfigGainCurrent.u0 = Opaque: Float: 1.080353
WIENER-CRATE-MIB::outputConfigGainCurrent.u1 = Opaque: Float: 1.050847
WIENER-CRATE-MIB::outputConfigGainCurrent.u2 = Opaque: Float: 1.000945
WIENER-CRATE-MIB::outputConfigGainCurrent.u3 = Opaque: Float: 0.940019
WIENER-CRATE-MIB::outputConfigOffsetCurrent.u0 = Opaque: Float: -0.059070 V
WIENER-CRATE-MIB::outputConfigOffsetCurrent.u1 = Opaque: Float: -0.277017 V
WIENER-CRATE-MIB::outputConfigOffsetCurrent.u2 = Opaque: Float: -0.050435 V
WIENER-CRATE-MIB::outputConfigOffsetCurrent.u3 = Opaque: Float: -0.006680 V
WIENER-CRATE-MIB::sensorNumber.0 = INTEGER: 8
WIENER-CRATE-MIB::sensorTemperature.temp1 = INTEGER: -128 deg C
WIENER-CRATE-MIB::sensorTemperature.temp2 = INTEGER: -128 deg C
WIENER-CRATE-MIB::sensorTemperature.temp3 = INTEGER: -128 deg C
WIENER-CRATE-MIB::sensorTemperature.temp4 = INTEGER: -128 deg C
WIENER-CRATE-MIB::sensorTemperature.temp5 = INTEGER: -128 deg C
WIENER-CRATE-MIB::sensorTemperature.temp6 = INTEGER: 23 deg C
WIENER-CRATE-MIB::sensorTemperature.temp7 = INTEGER: 34 deg C
WIENER-CRATE-MIB::sensorTemperature.temp8 = INTEGER: 33 deg C
WIENER-CRATE-MIB::sensorWarningThreshold.temp1 = INTEGER: 40 deg C
WIENER-CRATE-MIB::sensorWarningThreshold.temp2 = INTEGER: 40 deg C
WIENER-CRATE-MIB::sensorWarningThreshold.temp3 = INTEGER: 35 deg C
WIENER-CRATE-MIB::sensorWarningThreshold.temp4 = INTEGER: 40 deg C
WIENER-CRATE-MIB::sensorWarningThreshold.temp5 = INTEGER: 40 deg C
WIENER-CRATE-MIB::sensorWarningThreshold.temp6 = INTEGER: 40 deg C
WIENER-CRATE-MIB::sensorWarningThreshold.temp7 = INTEGER: 40 deg C
WIENER-CRATE-MIB::sensorWarningThreshold.temp8 = INTEGER: 40 deg C
WIENER-CRATE-MIB::sensorFailureThreshold.temp1 = INTEGER: 80 deg C
WIENER-CRATE-MIB::sensorFailureThreshold.temp2 = INTEGER: 80 deg C
WIENER-CRATE-MIB::sensorFailureThreshold.temp3 = INTEGER: 80 deg C
WIENER-CRATE-MIB::sensorFailureThreshold.temp4 = INTEGER: 80 deg C
WIENER-CRATE-MIB::sensorFailureThreshold.temp5 = INTEGER: 80 deg C
WIENER-CRATE-MIB::sensorFailureThreshold.temp6 = INTEGER: 80 deg C
WIENER-CRATE-MIB::sensorFailureThreshold.temp7 = INTEGER: 80 deg C
WIENER-CRATE-MIB::sensorFailureThreshold.temp8 = INTEGER: 80 deg C
WIENER-CRATE-MIB::sensorAlarmThreshold.temp1 = INTEGER: 70 deg C
WIENER-CRATE-MIB::sensorAlarmThreshold.temp2 = INTEGER: 70 deg C
WIENER-CRATE-MIB::sensorAlarmThreshold.temp3 = INTEGER: 70 deg C
WIENER-CRATE-MIB::sensorAlarmThreshold.temp4 = INTEGER: 70 deg C
WIENER-CRATE-MIB::sensorAlarmThreshold.temp5 = INTEGER: 70 deg C
WIENER-CRATE-MIB::sensorAlarmThreshold.temp6 = INTEGER: 70 deg C
WIENER-CRATE-MIB::sensorAlarmThreshold.temp7 = INTEGER: 70 deg C
WIENER-CRATE-MIB::sensorAlarmThreshold.temp8 = INTEGER: 70 deg C
WIENER-CRATE-MIB::sensorName.temp1 = STRING: PS1
WIENER-CRATE-MIB::sensorName.temp2 = STRING: PS2
WIENER-CRATE-MIB::sensorName.temp3 = STRING: Slot1
WIENER-CRATE-MIB::sensorName.temp4 = STRING: Slot5
WIENER-CRATE-MIB::sensorName.temp5 = STRING: Slot9
WIENER-CRATE-MIB::sensorName.temp6 = STRING: Sensor6
WIENER-CRATE-MIB::sensorName.temp7 = STRING: Sensor7
WIENER-CRATE-MIB::sensorName.temp8 = STRING: Sensor8
WIENER-CRATE-MIB::sensorID.temp1 = Hex-STRING: 2C 00 00 03 C4 30 D8 28
WIENER-CRATE-MIB::sensorID.temp2 = Hex-STRING: B3 00 00 03 C4 14 77 28

WIENER-CRATE-MIB::sensorID.temp3 = Hex-STRING: BB 00 00 03 C4 0B 35 28
WIENER-CRATE-MIB::sensorID.temp4 = Hex-STRING: 9F 00 00 03 C4 00 D9 28
WIENER-CRATE-MIB::sensorID.temp5 = Hex-STRING: 6C 00 00 03 C4 22 31 28
WIENER-CRATE-MIB::sensorID.temp6 = Hex-STRING: 49 00 00 03 E1 57 90 28
WIENER-CRATE-MIB::sensorID.temp7 = Hex-STRING: 8B 00 00 03 C3 F0 4E 28
WIENER-CRATE-MIB::sensorID.temp8 = Hex-STRING: 04 00 00 03 C3 FB F5 28
WIENER-CRATE-MIB::sensorStatus.0 = INTEGER: 0
WIENER-CRATE-MIB::snmpCommunityName.public = STRING: "public"
WIENER-CRATE-MIB::snmpPort.0 = INTEGER: 161
WIENER-CRATE-MIB::firmwareUpdate.0 = ""
WIENER-CRATE-MIB::ipDynamicAddress.0 = IpAddress: 192.168.92.85
WIENER-CRATE-MIB::ipStaticAddress.0 = IpAddress: 192.168.92.85
WIENER-CRATE-MIB::macAddress.0 = Hex-STRING: 00 50 C2 2D CF 1C
WIENER-CRATE-MIB::psOperatingTime.0 = INTEGER: 5932747 s
WIENER-CRATE-MIB::psAuxiliaryNumber.0 = INTEGER: 1
WIENER-CRATE-MIB::psAuxiliaryMeasurementVoltage.u0 = Opaque: Float: 29.029491 V
WIENER-CRATE-MIB::fanOperatingTime.0 = INTEGER: 5936315 s
WIENER-CRATE-MIB::fanNominalSpeed.0 = INTEGER: 2400 RPM
WIENER-CRATE-MIB::fanNumberOfFans.0 = INTEGER: 1 Fans
WIENER-CRATE-MIB::fanSpeed.1 = INTEGER: 2351 RPM
WIENER-CRATE-MIB::fanMaxSpeed.0 = INTEGER: 7400 RPM
WIENER-CRATE-MIB::fanMinSpeed.0 = INTEGER: 2400 RPM
WIENER-CRATE-MIB::fanConfigMaxSpeed.0 = INTEGER: 7400 RPM
WIENER-CRATE-MIB::fanConfigMinSpeed.0 = INTEGER: 2400 RPM
WIENER-CRATE-MIB::digitalInput.0 = BITS: FF d0(0) d1(1) d2(2) d3(3) d4(4) d5(5) d6(6) d7(7)
WIENER-CRATE-MIB::digitalOutput.0 = BITS: 00
WIENER-CRATE-MIB::digitalOutput.0 = No more variables left in this MIB View (It is past the end of the MIB tree)

After obtaining information about the crate / power supplies or a list of channels and parameters, it is useful to be able to write or read particular data. This can be done using the **snmpget** and **snmpset** commands.

snmpget -Oqv -v 2c -M $path -m +WIENER-CRATE-MIB -c public $ip name.index

snmpset -v 2c -M $path -m +WIENER-CRATE-MIB -c admin $ip name.index format value

Via SNMP the status of the crate can be read and the crate can be switched on or off 1:

snmpget -v 2c -M $path -m +WIENER-CRATE-MIB -c public $ip sysMainSwitch.0
Example:
C:\ >snmpget -v 2c -m +WIENER-CRATE-MIB -c public 192.168.0.81 sysMainSwitch.0
WIENER-CRATE-MIB::sysMainSwitch.0 = INTEGER: OFF(0)

This indicates that the crate or power supply is currently off. Since we know from the call above that the crate is off, we may want to turn it on.

snmpset -v 2c - path -m +WIENER-CRATE-MIB -c COMMUNITY $ip sysMainSwitch.0 i 1
The following community groups are used:

"**public**": for all read operations
"**private**": to switch crate on or off
"**admin**": to change parameters as fan speed or temperature limits

In case the wrong community code is used a "not writable" error message will be received.

Most of the parameters for snmpset are the same as snmpget, the new parameters are highlighted below.
i: Since sysMainSwitch.0 is an integer value, we specify the value to be an integer
1: This is the value we wish to write. In this case we write 'one' to set the main switch to on.

Example for VME 6023 crate:
C:\ >snmpset -v 2c -m +WIENER-CRATE-MIB -c private 192.168.0.81 sysMainSwitch.0 i 1
WIENER-CRATE-MIB::sysMainSwitch.0 = INTEGER: on(1)

For most of the write commands (snmpset) the access type has to be changed from public to private. A complete list of value names that can be written or read via SNMP can be found in the WIENER-CRATE-MIB but commonly needed values are:

Value Name	Type	Access	Comments
sysMainSwitch.0	Integer	R/W	ON/OFF
outputMeasurementSenseVoltage.u0 … u3	float	R	Measured channel Voltage
outputMeasurementCurrent.u0 … u3	float	R	Measured channel current
outputSupervisionMaxCurrent.u0 … u3	float	R/W	Channel set current limit
sensorTemperature.temp1 … temp8	integer	R	Measured temperature for optional sensors 1 to 8
sensorWarningThreshold.temp1 …temp8	integer	R/W	Warning temperature limit
sensorFailureThreshold.temp1 … temp8	integer	R/W	Failure temperature limit
sensorAlarmThreshold.temp1 … temp8	integer	R/W	Alarm temperature limit
fanNominalSpeed.0	integer	R/W	Set fan speed
fanSpeed.1	integer	R	Measured speed of fan

3.2 SNMP Control Examples

Following examples are given to get information for power supply output channel u0 and to read / program temperature limits:

Read measured voltage:
C:\Users\Andreas Ruben>snmpget -v 2c -m +WIENER-CRATE-MIB -c public 192.168.0.81
outputMeasurementSenseVoltage.u0
WIENER-CRATE-MIB::outputMeasurementSenseVoltage.u0 = Opaque: Float: 5.000000 V

Read measured current:
C:\Users\Andreas Ruben>snmpget -v 2c -m +WIENER-CRATE-MIB -c public 192.168.0.81
outputMeasurementCurrent.u0
WIENER-CRATE-MIB::outputMeasurementCurrent.u0 = Opaque: Float: 3.640000 A

Read temperatures (crate is outfitted with 3 sensors at position 4,5 and 6:
C:\ >snmpwalk -v 2c -m +WIENER-CRATE-MIB -c public 192.168.0.81 sensorTemperature
WIENER-CRATE-MIB::sensorTemperature.temp1 = INTEGER: -128 deg C
WIENER-CRATE-MIB::sensorTemperature.temp2 = INTEGER: -128 deg C
WIENER-CRATE-MIB::sensorTemperature.temp3 = INTEGER: -128 deg C
WIENER-CRATE-MIB::sensorTemperature.temp4 = INTEGER: 25 deg C
WIENER-CRATE-MIB::sensorTemperature.temp5 = INTEGER: 25 deg C
WIENER-CRATE-MIB::sensorTemperature.temp6 = INTEGER: 27 deg C
WIENER-CRATE-MIB::sensorTemperature.temp7 = INTEGER: -128 deg C
WIENER-CRATE-MIB::sensorTemperature.temp8 = INTEGER: -128 deg C

Read specific temperature probe:

C:\ >snmpget -v 2c -m +WIENER-CRATE-MIB -c public 192.168.0.81 sensorTemperature.temp4
WIENER-CRATE-MIB::sensorTemperature.temp4 = INTEGER: 25 deg C

Set temperature warning level for probe 4
C:\>snmpset -v 2c -m +WIENER-CRATE-MIB -c admin 192.168.0.81 sensorWarningThreshold.temp4 i 50
WIENER-CRATE-MIB::sensorWarningThreshold.temp4 = INTEGER: 50 deg C

Set fan speed to 3100 RPM
C:\>snmpset -v 2c -m +WIENER-CRATE-MIB -c admin 192.168.0.81fanNominalSpeed.0 i 3100
WIENER-CRATE-MIB::fanNominalSpeed.0 = INTEGER: 3100 RPM
Change of IP address via SNMP

3.3 Setting of IP Addresses via SNMP

WIENER crates with Ethernet remote monitoring can be operated either with static IP address or in DHCP mode where the actual IP address is defined by the network router.
DHCP is selected by setting the static IP address on the fan tray front panel to 0.0.0.0.
Two SNMP ID's are used for the dynamic and static IP address:

WIENER-CRATE-MIB::ipDynamicAddress.0 = IpAddress: 192.168.0.81
WIENER-CRATE-MIB::ipStaticAddress.0 = IpAddress: 192.168.0.81

To change the Crate IP address via SNMP perform the following call (change as example to 192.168.0.56):

snmpset -v 2c -m +WIENER-CRATE-MIB -c guru 192.168.0.81 ipStaticAddress.0 = 192.168.0.56
WIENER-CRATE-MIB::ipStaticAddress.0 = IpAddress: 192.168.0.56

3.4 Change of Community Names / Setting of Passwords

For the communication with MPOD modules 4 types of SNMP communities are used, "**public**", "**private**" and "**admin**". By default the community names are equal to the community types.

snmpwalk -v 2c -m +WIENER-CRATE-MIB -c admin 192.168.0.81 snmpCommunityName
WIENER-CRATE-MIB::snmpCommunityName.public = STRING: "public"
WIENER-CRATE-MIB::snmpCommunityName.private = STRING: "private"
WIENER-CRATE-MIB::snmpCommunityName.admin = STRING: "admin"

snmpwalk -v 2c -m +WIENER-CRATE-MIB -c private 192.168.0.81snmpCommunityName
WIENER-CRATE-MIB::snmpCommunityName.public = STRING: "public"
WIENER-CRATE-MIB::snmpCommunityName.private = STRING: "private"

In order to secure the MPOD system communication the community names can be used as passwords and be changed accordingly. The following example shows how the change and test the community names. Using a wrong community name will result in a time out error. Please note, that especially the communities with write access (private, admin) should be protected.

snmpset -v 2c -m +WIENER-CRATE-MIB -c private 192.168.0.81 snmpCommunityName.private s seCrET
WIENER-CRATE-MIB::snmpCommunityName.private = STRING: "seCrET"

snmpwalk -v 2c -m +WIENER-CRATE-MIB -c private 192.168.0.81snmpCommunityName
Timeout: No Response from 192.168.0.80
snmpwalk -v 2c -m +WIENER-CRATE-MIB -c seCrET 192.168.0.80 snmpCommunityName
WIENER-CRATE-MIB::snmpCommunityName.public = STRING: "public"
WIENER-CRATE-MIB::snmpCommunityName.private = STRING: ""seCrET"
WIENER-CRATE-MIB::snmpCommunityName.admin = STRING: "admin"

3.5 WIENER SYScontrol Software

WIENER provides a user friendly SNMP based control program SYScontrol which can be downloaded from the file.wiener-d.com file server.

SYScontrol requires NetSNMP to be installed and the WIENER-CRATE-MIB.TXT mib file to be copied into the right directory (see 5.1). SYScontrol is available as an installation package for Microsoft Windows operating systems (32bit / 64bit) but can also be compiled and run on Linux.

SYScontrol allows to scan a network for WIENER chassis and power supplies in order to determine the matching IP addresses. Further remote ON/OFF switching as well as setting of fan speed and temperature limits is possible.

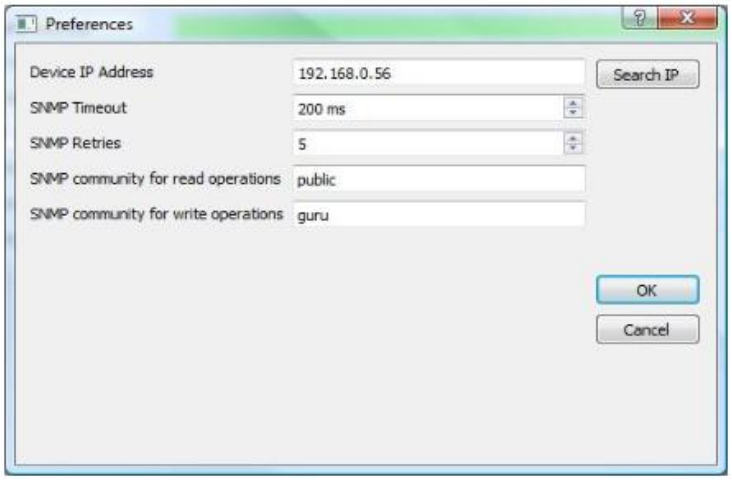
3.5.1 Installation SYScontrol

The installation is done in three steps. All files can be downloaded from the WIENER file server at http://file.wiener-d.com/ :

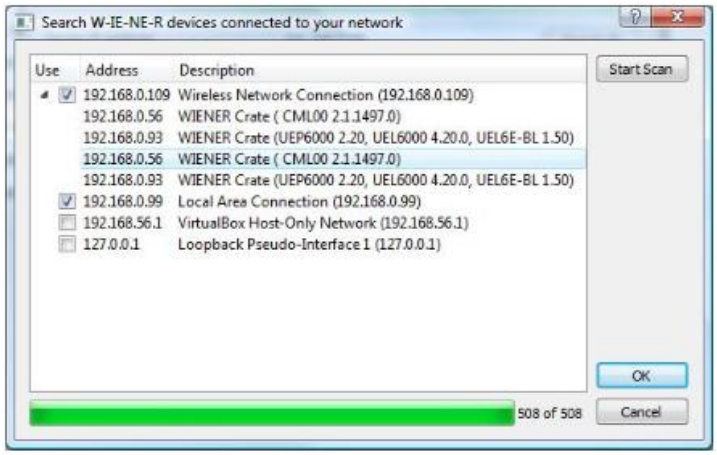
1. Install "net-snmp-x.x.x.exe" (32-bit version!). NetSNMP is an open source SNMP program which is used to access the CML via the Simple Network Management Protocol. Please see http://net-snmp.sourceforge.net/ for more details.
2. The WIENER-CRATE-MIB.txt file must be copied to the computer running the SYScontrol program. It is suggested to use the default location /usr/share/snmp/mibs.
3. Install software "SYScontrolInstall-x.x.x.x.exe" (MS Windows) or compile / make program on a Linux OS.

3.5.2 Setting Preferences / IP Address and Crate Scan

Under Settings > Preferences the IP address can be set for the WIENER 395 mini crate to be monitored and controlled. The SNMP community strings for read and write operations should only be modified in case those have been changed on the chassis and are used as passwords (see 4.4)

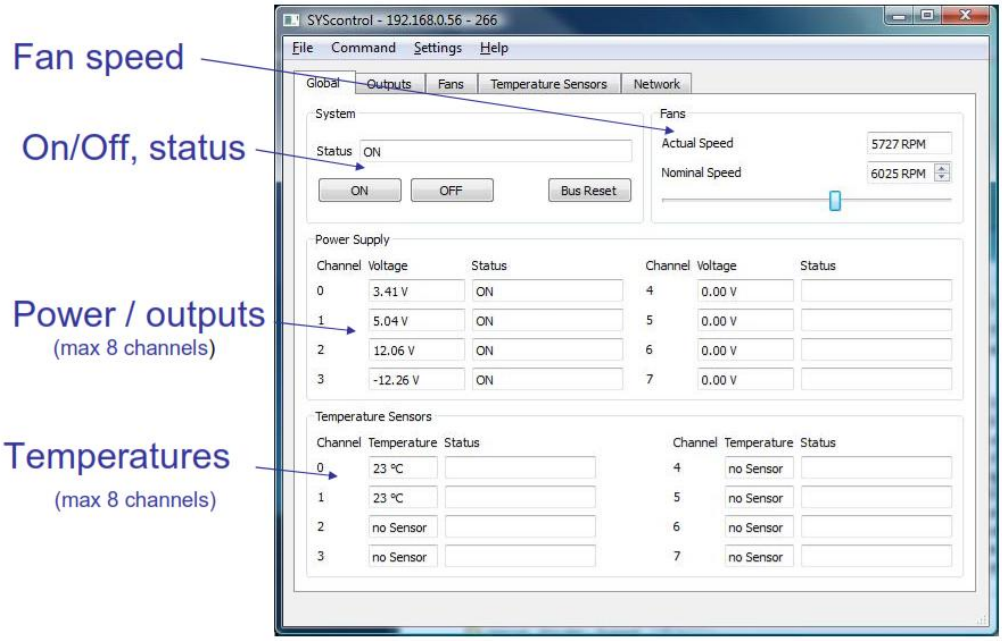


In case the IP address is not known or DHCP is used it is possible to scan the network for WIENER power supplies and chassis. Once the scan is finished select the CML / IP address to be monitored and hit ok.


Search W-IE-NE-R devices connected to your network
Use
Address
Description
Start Scan
192.168.0.109 Wireless Network Connection (192.168.0.109)
192.168.0.56 WIENER Crate (CML00 2.1.1497.0)
192.168.0.93 WIENER Crate (UEP6000 2.20, UEL6000 4.20.0, UEL6E-BL 1.50)
192.168.0.56 WIENER Crate (CML00 2.1.1497.0)
192.168.0.93 WIENER Crate (UEP6000 2.20, UEL6000 4.20.0, UEL6E-BL 1.50)
192.168.0.99 Local Area Connection (192.168.0.99)
192.168.56.1 VirtualBox Host-Only Network (192.168.56.1)
127.0.0.1 Loopback Pseudo-Interface 1 (127.0.0.1)
OK
508 of 508
Cancel

3.5.3 The SYScontrol Main Window

After starting the application SYScontrol the main window shows the following overview for the crate at the selected IP address in the "Global" tab.

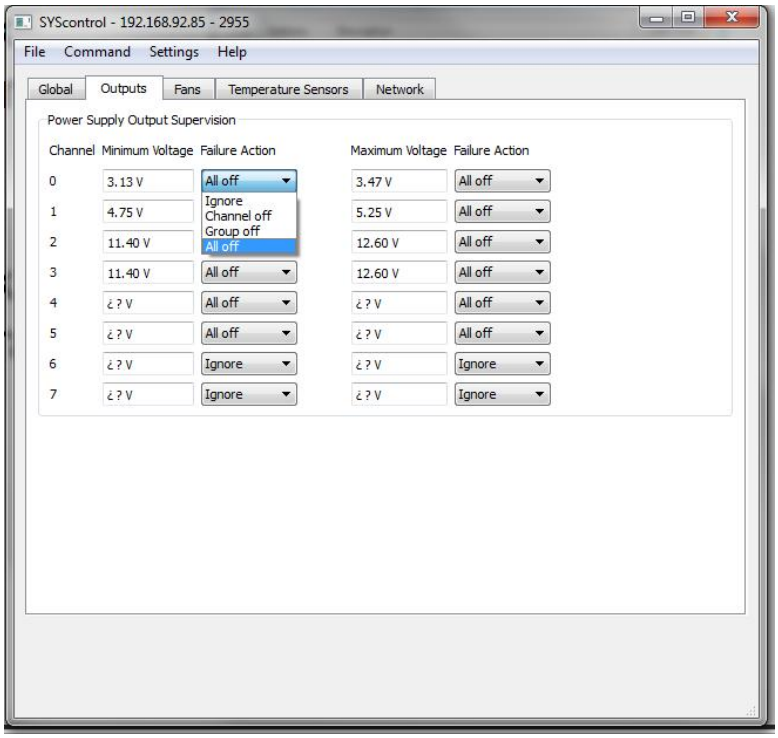

Fan speed
On/Off, status
Power / outputs
(max 8 channels)
Temperatures
(max 8 channels)
SYScontrol - 192.168.0.56 - 266
File Command Settings Help
Global Outputs Fans Temperature Sensors Network
System
Status ON
ON OFF Bus Reset
Fans
Actual Speed 5727 RPM
Nominal Speed 6025 RPM
Power Supply
Channel Voltage Status Channel Voltage Status
0 3.41 V ON 4 0.00 V
1 5.04 V ON 5 0.00 V
2 12.06 V ON 6 0.00 V
3 -12.26 V ON 7 0.00 V
Temperature Sensors
Channel Temperature Status Channel Temperature Status
0 23 °C 4 no Sensor
1 23 °C 5 no Sensor
2 no Sensor 6 no Sensor
3 no Sensor 7 no Sensor

SYScontrol visualizes all relevant parameters such as DC voltages and limits, fan speed, temperatures, network address and system status. Further it is possible to control the chassis (ON/OFF, set fan speed) and to program power supply parameters and temperature limits.

3.5.4 SYScontrol - Outputs

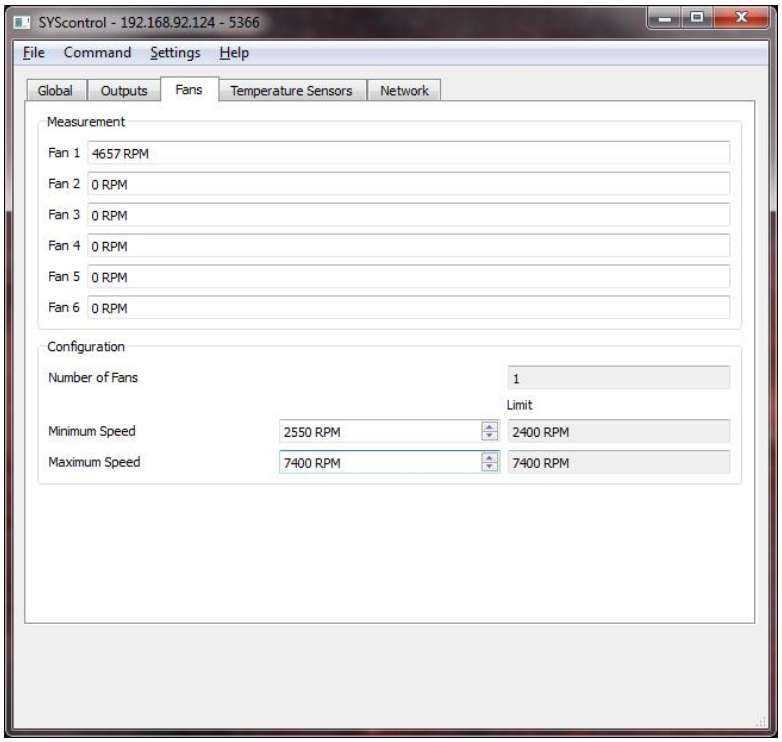
Up to 8 DC outputs can be shown. For the 395 mini crate series channels 0 to 3 correspond to the +3.3V, +5V and +/-12V DC channels. On the Output tab it is possible to define the over and under voltage trip points and also to set the related action. In case the failure action is set "Ignore" then the errors are ignored, if set "All off" then the system will turn off power of this error.

Please note that the failure actions "Channel of" and "Group off" are not valid for CML00.


SYScontrol - 192.168.92.85 - 2955
File Command Settings Help
Global Outputs Fans Temperature Sensors Network
Power Supply Output Supervision
Channel Minimum Voltage Failure Action Maximum Voltage Failure Action
0 3.13 V All off 3.47 V All off
1 4.75 V Ignore Channel off Group off All off 5.25 V All off
2 11.40 V 12.60 V All off
3 11.40 V All off 12.60 V All off
4 ¿ ? V All off ¿ ? V All off
5 ¿ ? V All off ¿ ? V All off
6 ¿ ? V Ignore ¿ ? V Ignore
7 ¿ ? V Ignore ¿ ? V Ignore

3.5.5 SYScontrol – Fans

The WIENER CML can monitor and control up to 6 DC fans. Since the 395 crate is outfitted with only one high performance DC fan only one is shown. The measurement field shows the actual fan speed / RPM. For each available fan. Further it is possible to set "user defined" minimum and maximum fan speed values which have to be within the system limits shown on the right.



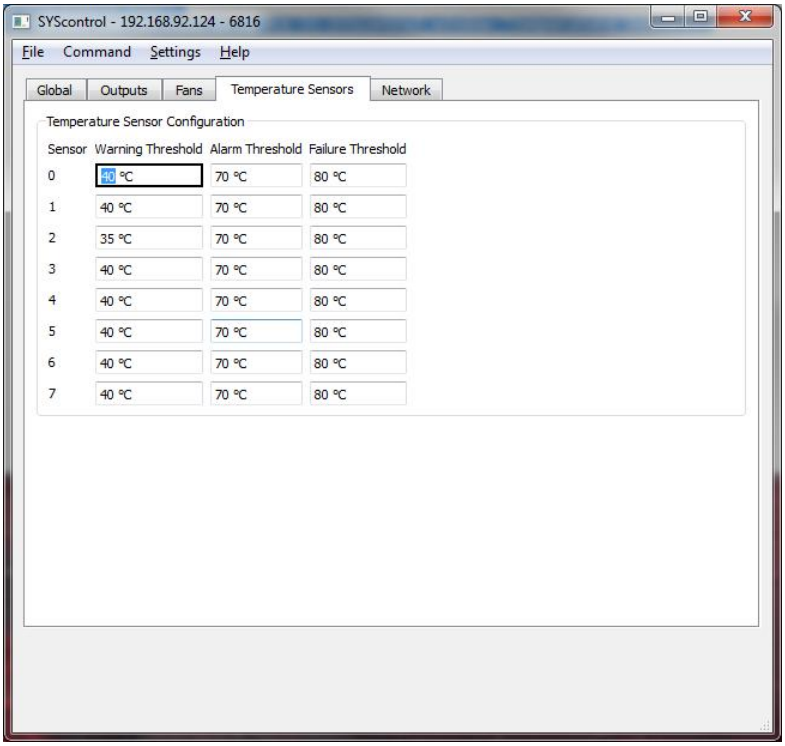
3.5.6 SYScontrol – Temperature Sensors

The CML has 6 temperature sensor inputs which can be wired to optional temperature sensors (semiconductor sensors with 1 kOhm resistance at 25°C). The measured temperatures are shown in SYScontrol Global tab and can be read via SNMP (crate.sensor.sensorTemperature OID).

Further it is possible to define a temperature controlled fan operation (see 1.5.4). For this each temperature is compared with three threshold values.

- crate.sensor.sensorWarningThreshold,
- crate.sensor.sensorAlarmThreshold
- crate.sensor.sensorFailureThreshold

The temperature threshold values can be read and defined in the SYScontrol "Temperature Sensors" tab. Please refer to paragraph 1.5.4. for setting the different temperature control profiles.


SYScontrol - 192.168.92.124 - 6816
File Command Settings Help
Global Outputs Fans Temperature Sensors Network
Temperature Sensor Configuration
Sensor Warning Threshold Alarm Threshold Failure Threshold
0 40 °C 70 °C 80 °C
1 40 °C 70 °C 80 °C
2 35 °C 70 °C 80 °C
3 40 °C 70 °C 80 °C
4 40 °C 70 °C 80 °C
5 40 °C 70 °C 80 °C
6 40 °C 70 °C 80 °C
7 40 °C 70 °C 80 °C

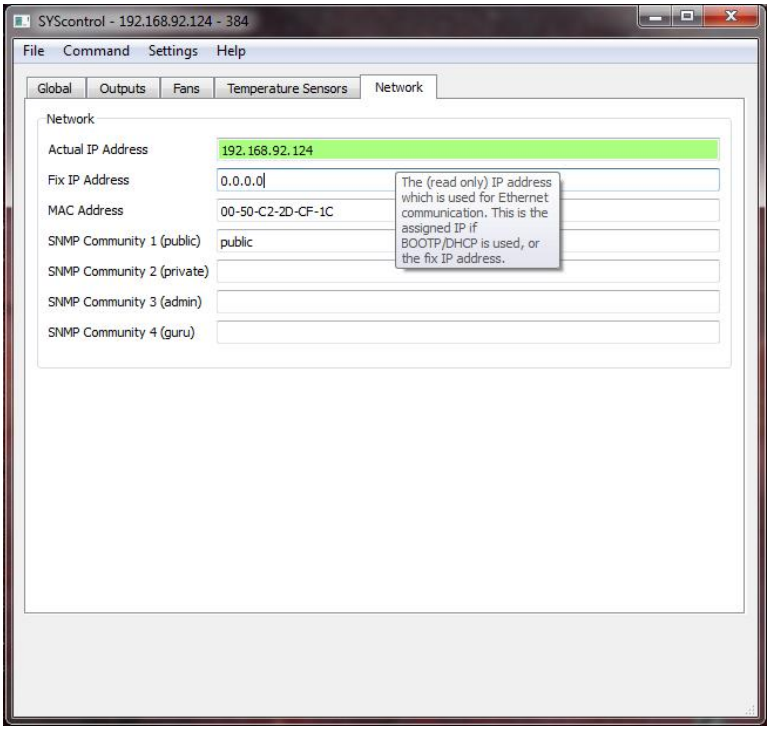
3.5.7 SYScontrol Networks tab

The Network tab provides the information about the CML00 network configuration as IP addresses, MAC address and SNMP community strings. The default configuration is DHCP with 0.0.0.0 as fixed IP address and the assigned IP address shown under "Actual IP Address".

To switch between DHCP and fixed IP address and / or to change the IP address one can use the front panel display switches or program the values via SNMP (see 4.3). It is also possible to change the value of the IP address by changing the values in the "Fixed IP Address fields.

Please note that after the CML changed the IP address values accordingly the connection to the chassis will be lost until the new IP address is re-defined in SYScontrol under Settings >> Parameters.

The MAC address and SNMP community strings are read-only values.


SYScontrol - 192.168.92.124 - 384
File Command Settings Help
Global Outputs Fans Temperature Sensors Network
Network
Actual IP Address
192.168.92.124
Fix IP Address
0.0.0.0
MAC Address
00-50-C2-2D-CF-1C
SNMP Community 1 (public)
public
SNMP Community 2 (private)
SNMP Community 3 (admin)
SNMP Community 4 (guru)
The (read only) IP address which is used for Ethernet communication. This is the assigned IP if BOOTP/DHCP is used, or the fix IP address.

3.6 MIB Browser

There are several commercial or open source MIB-Browser programs available which can be used for SNMP communication. These provide often a simple GUI and allow SNMP calls.

Following is a list of some free or open source MIB – browsers:

http://www.ireasoning.com/mibbrowser.shtml
http://www.serverscheck.com/mib_browser/
http://www.mibble.org/
http://www.ks-soft.net/hostmon.eng/mibbrowser/index.htm
http://www.tembria.com/products/snmpbrowser/index.html

4 Technical Details VME / VME64x / cPCI Mini crate 395

Specs:

Module cage formats	6U´160mm, Euro standard, Transition 6U ´ up to 160mm
Crate Size	9 Slot , 19“ or 435mm ´ 5U (221mm), 485mm depth
Mains input	wide range: 90...265VAC, 47-63Hz, 10A fuse, Inrush current less than 30A at 230Vac.
Isolation	Inp.-outp. **CE** EN 60950, ISO 380, VDE 0805, UL 1950, C22.2.950
Regulation	Typ. ±1-±4%. (Various with output voltage.)
Noise and ripple:	<50mVpp, typical <30mVpp (0-20MHz), <3mVrms (0-2MHz)
Operation:	0...40°C without derating, rel. humidity 30...80%, non condensing atmospheric pressure 70...110kPa, for 600W continuous power >85kPa
Storage:	-30°C up to 85°C
Stability:	10mV or 0,1% within 24 hours 25mV or 0,5% within 6 months
Overvoltage protection:	trip off, protection against broken sense lines
Internal temperature limits:	Cut off: 110°C heat sink, 70°C ambient, >45°C module exhaust accelerates fan speed to 100%
Cooling air flow	(max. fan speed): removable fan, 340m3h, blower MTBF >60 000h (40°C)
Efficiency:	max. ca. 80%, depends on installed output voltages

5 CML Firmware Update Instructions

The 395 crate remote controller module CML00 can be firmware upgraded by the user. Currently the firmware upgrade is possible via USB using a MS Windows (XP, VISTA, W7/8) program MUSEcontrol. For this please download the latest version of the firmware files from:

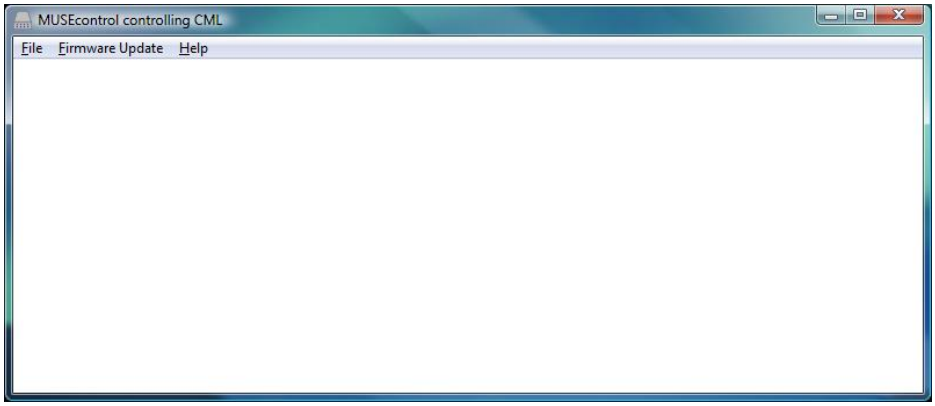
http://file.wiener-d.com/firmware/CML00/

as well as the MS Windows program **MUSEcontrol** (version 2.0.910.0 or higher) from:

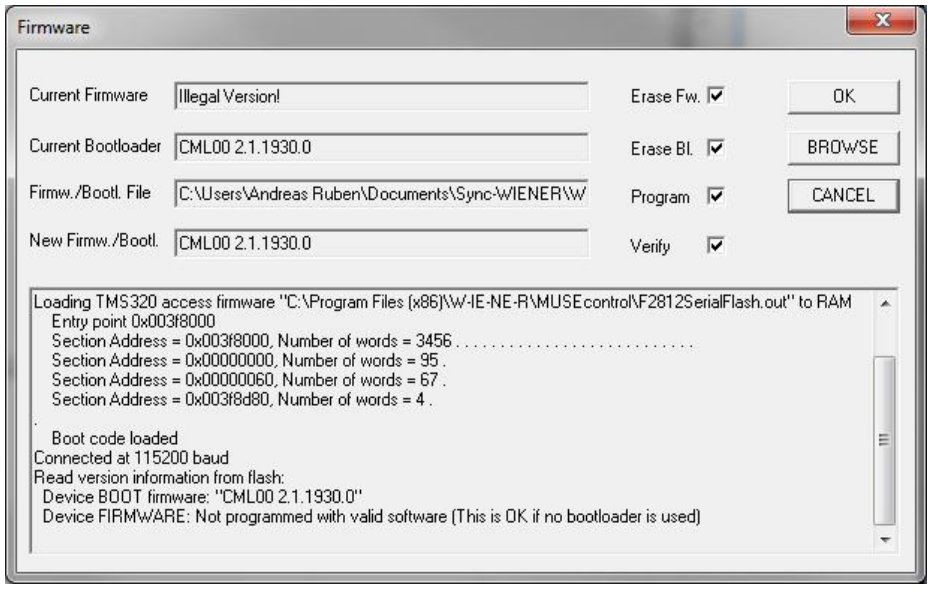
http://file.wiener-d.com/software/MUSEcontrol/

1) Connect the VME395 / CML (rear side) to the computer via USB

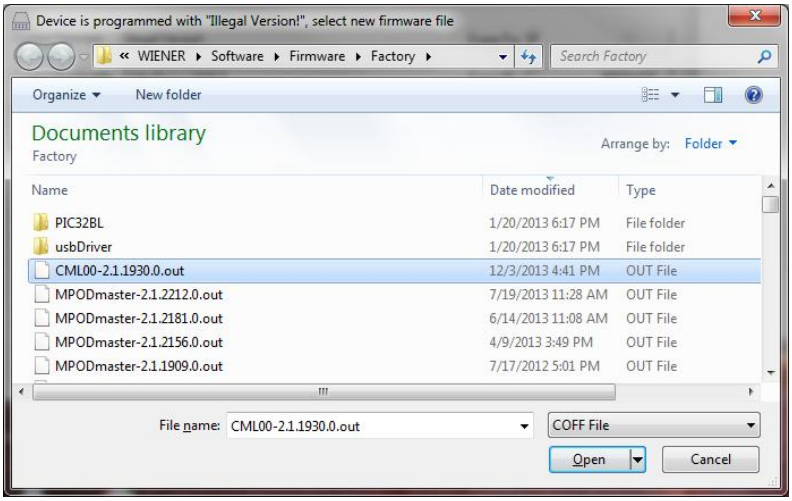
2) Start the MUSEcontrol program and select the item "Firmware Update" to update the device via USB.



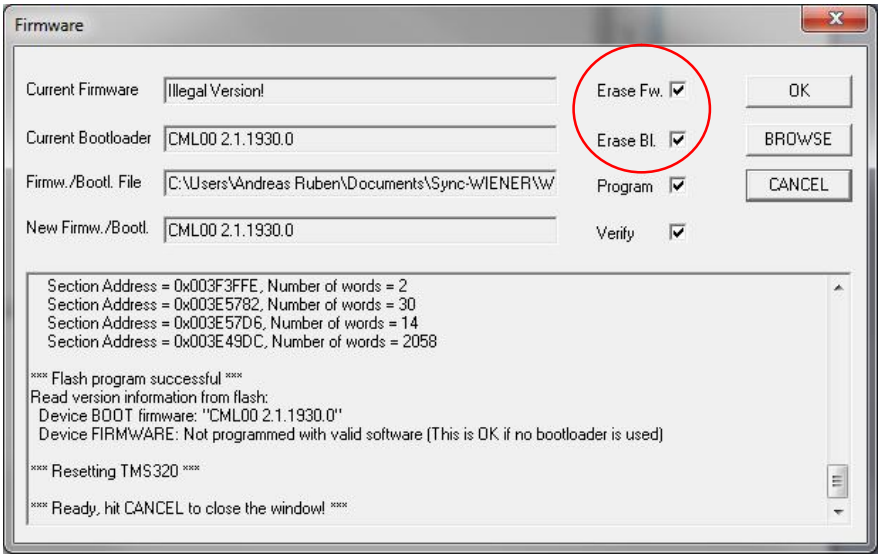
3) in the new "Firmware" window click on BROWSE to read the current firmware:


Firmware
Current Firmware
Illegal Version!
Erase Fw.
OK
Current Bootloader
CML00 2.1.1930.0
Erase Bl.
BROWSE
Firmw./Bootl. File
C:\Users\Andreas Ruben\Documents\Sync-WIENER\W
Program
CANCEL
New Firmw./Bootl.
CML00 2.1.1930.0
Verify
Loading TMS320 access firmware "C:\Program Files (x86)\W-IE-NE-R\MUSEcontrol\F2812SerialFlash.out" to RAM
Entry point 0x003f8000
Section Address = 0x003f8000, Number of words = 3456 .
Section Address = 0x00000000, Number of words = 95 .
Section Address = 0x00000060, Number of words = 67 .
Section Address = 0x003f8d80, Number of words = 4 .
Boot code loaded
Connected at 115200 baud
Read version information from flash:
Device BOOT firmware: "CML00 2.1.1930.0"
Device FIRMWARE: Not programmed with valid software (This is OK if no bootloader is used)

A window will pop up asking for the path to the new firmware file:



4) To program the new firmware check both "Erase FW" and check "Erase BL"!!! and click on OK,


Firmware
Current Firmware
Illegal Version!
Erase Fw.
OK
Current Bootloader
CML00 2.1.1930.0
Erase Bl.
BROWSE
Firmw./Bootl. File
C:\Users\Andreas Ruben\Documents\Sync-WIENER\W
Program
CANCEL
New Firmw./Bootl.
CML00 2.1.1930.0
Verify
Section Address = 0x003F3FFE, Number of words = 2
Section Address = 0x003E5782, Number of words = 30
Section Address = 0x003E57D6, Number of words = 14
Section Address = 0x003E49DC, Number of words = 2058
*** Flash program successful ***
Read version information from flash:
Device BOOT firmware: "CML00 2.1.1930.0"
Device FIRMWARE: Not programmed with valid software (This is OK if no bootloader is used)
*** Resetting TMS320 ***
*** Ready, hit CANCEL to close the window! ***

When finished the above shown text will appear. Hit CANCEL to exit the programming window and close MUSEcontrol.

In case programming seems to hang (message "program is not responding") leave it running, it may finish programming and just not be responding during that period!